

### Claims

1-14. (Cancelled).

15. (Currently Amended) A method for detecting bacterial infection by a polyglutamic acid- (PGA-) producing pathogen in a subject~~vertebrate of interest, said method~~ comprising:

detecting a level of soluble PGA in a biological sample from a subject, wherein the subject is a member of a vertebrate species~~said vertebrate~~; and

comparing the level of soluble PGA to a reference value of soluble PGA representative of vertebrate species members uninfected by the PGA-producing pathogen;

wherein ~~said the level of soluble PGA is indicative of~~ indicates that the subject has been infected~~bacterial infection by a PGA-producing pathogen in said vertebrate is indicated~~ if the level of soluble PGA is greater than the reference value.

16. (Currently Amended) The method according to claim 15, wherein the level of ~~said~~ soluble PGA is detected by an immunoassay.

17. (Original) The method according to claim 16, wherein the immunoassay is a competitive assay.

18. (Original) The method according to claim 16, wherein the immunoassay is in a direct format.

19. (Currently Amended) The method according to claim 15, wherein the vertebrate species is ~~a~~ human, and the biological sample is a blood sample.

20-39. (Cancelled).

40. (Currently Amended) A method for detecting infection by a PGA-producing bacterium in a subject ~~vertebrate of interest, said method~~ comprising:

contacting a biological sample prepared from ~~said vertebrate~~ a subject with an anti-PGA antibody, wherein the subject is a member of a vertebrate species; and

measuring a level of soluble PGA in said biological sample; and

comparing the level of soluble PGA to a reference value of soluble PGA representative of vertebrate species members uninfected by the PGA-producing bacterium;

wherein the level of soluble PGA ~~in said biological sample is indicative of said infection in said vertebrate~~ indicates that the subject has been infected by a PGA-producing bacterium if the level of soluble PGA exceeds the reference value.

41. (Previously Presented) The method of claim 40, wherein said biological sample is a body fluid sample.

42. (Previously Presented) The method of claim 41, wherein said body fluid sample is a blood sample.

43. (Currently Amended) The method of claim 41, wherein said vertebrate species is mammalian ~~mammal~~.

44. (Currently Amended) The method of claim 41, wherein said vertebrate species is ~~a~~ human.

45. (Previously Presented) The method of claim 44, wherein the level of soluble PGA is detected by an immunoassay.

46. (Previously Presented) The method of claim 45, wherein said immunoassay is selected from the group consisting of an ELISA, an RIA, a lateral flow assay, a particle agglutination assay, a sandwich assay, and a protein chip assay.

47. (Previously Presented) The method of claim 45, wherein said immunoassay is an antigen capture immunoassay.

48. (Previously Presented) The method of claim 45, wherein said immunoassay is a non-competitive assay.

49. (Previously Presented) The method according to claim 45, wherein said immunoassay is in a direct assay format.

50. (Cancelled)

51. (Currently Amended) A method for evaluating progression of infection by a PGA-producing bacterium in a vertebrate of interest, said method comprising:

contacting a biological sample prepared from said vertebrate with an anti-PGA antibody;

measuring a level of soluble PGA in said biological sample; and

comparing the level of soluble PGA ~~to~~with a reference value, wherein the reference value comprises a level of soluble PGA in a biological sample obtained from said vertebrate at another time;

wherein comparing the level of soluble PGA in said biological sample to the reference value is indicative of the progression of said infection ~~in said vertebrate if it exceeds the reference value.~~

52. (Previously Presented) The method of claim 51, wherein said biological sample is a body fluid sample.

53. (Previously Presented) The method of claim 52, wherein said body fluid sample is a blood sample.

54. (Previously Presented) The method of claim 52, wherein said vertebrate is a mammal.

55. (Previously Presented) The method of claim 52, wherein said vertebrate is a human.

56. (Previously Presented) The method of claim 55, wherein the level of soluble PGA is detected by an immunoassay.

57. (Previously Presented) The method of claim 56, wherein said immunoassay is selected from the group consisting of an ELISA, an RIA, a lateral flow assay, a particle agglutination assay, a sandwich assay, and a protein chip assay.

58. (Previously Presented) The method of claim 56, wherein said immunoassay is an antigen capture immunoassay.

59. (Previously Presented) The method of claim 56, wherein said immunoassay is a non-competitive assay.

60. (Previously Presented) The method of claim 45, wherein said immunoassay is in a direct format.

61. (Cancelled).